

**Applicant: Katrina Schmidt**  
**Application Serial No.: 10/644,450**

**IN THE CLAIMS:**

The following is a complete listing of the claims having the status as indicated:

1. **(Currently Amended).** A formulated resin component for use in a polyurethane spray foam system to produce a polyurethane foam having a density of less than 1 pound per cubic foot, said resin component comprising:

a blowing agent present in an amount of from 15 to 40 parts by weight based on 100 parts by weight of said resin component;

a first polyol present in an amount of from 5 to 25 parts by weight based on 100 parts by weight of said resin component and having a number-average molecular weight of from 150 to 500 and having a hydroxyl number of from 250 to 1000 and having at least tetra-functionality;

a second polyol having a number-average molecular weight of from 3500 to 8000 and having a hydroxyl number of from 20 to 100 and having terminal hydroxyl groups;  
and

a curing component present in an amount of from 2 to 15 parts by weight based on 100 parts by weight of said resin component and comprising a polyether amine having at least one primary amine group, an equivalent hydroxyl number of from 20 to 800, and a number-average molecular weight of from 150 to 5000.

2. **(Cancelled).**

3. **(Original).** A resin component as set forth in claim 1 wherein said curing component is present in an amount of from 5 to 12 parts by weight based on 100 parts by weight of said resin component.

4. **(Original).** A resin component as set forth in claim 1 wherein said curing component has a number-average molecular weight of from 250 to 2500.

5. **(Cancelled).**

6. **(Previously Presented).** A resin component as set forth in claim 1 wherein said curing component has an equivalent hydroxyl number of from 30 to 450.

7. **(Cancelled).**

8. **(Previously Presented).** A resin component as set forth in claim 1 wherein said polyether amine is further defined as tri-functional having three primary amine groups.

9. **(Previously Presented).** A resin component as set forth in claim 1 wherein said polyether amine is further defined as di-functional having two primary amine groups.

10. **(Original).** A resin component as set forth in claim 1 wherein said first polyol is further defined as an amine-initiated polyol.

11. **(Original).** A resin component as set forth in claim 1 wherein said first polyol is further defined as an aliphatic polyol.

12. **(Cancelled).**

13. **(Original).** A resin component as set forth in claim 1 wherein said first polyol is present in an amount of from 10 to 20 parts by weight based on 100 parts by weight of said resin component.

14. **(Previously Presented).** A resin component as set forth in claim 1 wherein said first polyol has a number-average molecular weight of from 250 to 500.

15. **(Cancelled).**

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16. **(Original).** A resin component as set forth in claim 1 wherein said first polyol has a hydroxyl number of from 400 to 825.

17. **(Original).** A resin component as set forth in claim 1 wherein said second polyol is present in an amount of from 5 to 25 parts by weight based on 100 parts by weight of said resin component.

18. **(Original).** A resin component as set forth in claim 1 wherein said second polyol is present in an amount of from 10 to 20 parts by weight based on 100 parts by weight of said resin component.

19. **(Original).** A resin component as set forth in claim 1 wherein said second polyol has a number average molecular weight of from 4000 to 7500.

20. **(Cancelled).**

21. **(Original).** A resin component as set forth in claim 1 wherein said second polyol has a hydroxyl number of from 20 to 60.

22. **(Original).** A resin component as set forth in claim 1 wherein said second polyol is further defined as a triol.

23. **(Original).** A resin component as set forth in claim 1 wherein said second polyol is further defined as a diol.

24. **(Original).** A resin component as set forth in claim 1 further comprising additives selected from at least one of a catalyst, an emulsifier, a surfactant, and a flame retardant.

25. **(Currently Amended).** A resin component as set forth in claim 1 wherein said blowing agent is further defined as water ~~and is present in an amount of from 15 to 40 parts by weight based on 100 parts by weight of said resin component.~~

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26. **(Currently Amended).** A polyurethane foam that is produced from a polyurethane spraying system, is open-celled, and has a density of less than 1 pound per cubic foot and low water absorption, said polyurethane foam being the reaction product of:

a) a resin component comprising;

a blowing agent present in an amount of from 15 to 40 parts by weight based on 100 parts by weight of said resin component,

a first polyol used in an amount of from 5 to 25 parts by weight based on 100 parts by weight of said resin component and having a number-average molecular weight of from 150 to 500 and having a hydroxyl number of from 250 to 1000 and having at least tetra-functionality,

a second polyol having a number-average molecular weight of from 3500 to 8000 and having a hydroxyl number of from 20 to 100 and having terminal hydroxyl groups, and

a curing component used in an amount of from 2 to 15 parts by weight based on 100 parts by weight of said resin component and comprising a polyether amine having at least one primary amine group, an equivalent hydroxyl number of from 20 to 800, and having a number-average molecular weight of from 150 to 5000, and

b) an isocyanate component comprising diphenylmethane diisocyanate;

wherein said a) and b) are reacted in a volumetric ratio having an isocyanate index of from 15 to 70.

27. **(Original).** A polyurethane foam as set forth in claim 26 wherein said a) and b) are reacted in a volumetric ratio having an isocyanate index of from 25 to 60.

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28. **(Original).** A polyurethane foam as set forth in claim 26 wherein said polyurethane foam has a water absorption of less than 10 percent by volume of said polyurethane foam

29. **(Original).** A polyurethane foam as set forth in claim 26 wherein said polyurethane foam has a water absorption of less than 5 percent by volume of said polyurethane foam.

30. **(Cancelled).**

31. **(Original).** A polyurethane foam as set forth in claim 26 wherein said curing component has a number average molecular weight of from 250 to 2500.

32. **(Cancelled).**

33. **(Cancelled).**

34. **(Original).** A polyurethane foam as set forth in claim 26 wherein said first polyol is further defined as an aliphatic, amine-initiated polyol.

35. **(Cancelled).**

36. **(Original).** A polyurethane foam as set forth in claim 26 wherein said second polyol is used in an amount of from 5 to 25 parts by weight based on 100 parts by weight of said resin component.

37. **(Original).** A polyurethane foam as set forth in claim 26 wherein said second polyol is further defined as a triol.

38. **(Original).** A polyurethane foam as set forth in claim 26 wherein said second polyol is further defined as a diol.

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39. (Currently Amended). A method of forming a polyurethane foam from a polyurethane spraying system, wherein the polyurethane foam has a density of less than 1 pound per cubic foot and low water absorption, said method comprising the steps of:

providing a) a resin component including a blowing agent present in an amount of from 15 to 40 parts by weight based on 100 parts by weight of said resin component, a first polyol present in an amount of from 5 to 25 parts by weight based on 100 parts by weight of said resin component and having a number-average molecular weight of from 150 to 500, having a hydroxyl number of from 250 to 1000, and having at least tetra-functionality, a second polyol having a number-average molecular weight of from 3500 to 8000, having a hydroxyl number of from 20 to 100, and having terminal hydroxyl groups, and a curing component present in an amount of from 2 to 15 parts by weight based on 100 parts by weight of said resin component and comprising a polyether amine having at least one primary amine group, an equivalent hydroxyl number of from 20 to 800, and having a number-average molecular weight of from 150 to 5000,

providing b) an isocyanate component comprising diphenylmethane diisocyanate; and

reacting a) and b) in a volumetric ratio of from 1:1.2 to 1:5 such that a) and b) are reacted having an isocyanate index of from 15 to 70.

40. (Original). A method as set forth in claim 39 wherein said step of reacting a) and b) is further defined as reacting a) and b) in a volumetric ratio of from 1:1.2 to 1:2 such that a) and b) are reacted having an isocyanate index of from 25 to 60.

41. (Original). A method as set forth in claim 39 wherein the step of reacting a) and b) is further defined as spraying a) and b).

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42. **(Original).** A method as set forth in claim 41 wherein the step of spraying a) and b) is further defined as mixing a) and b) through a nozzle of a spray gun.

43. **(Cancelled).**

44. **(Original).** A method as set forth in claim 39 wherein the curing component has a number average molecular weight of from 250 to 2500.

45. **(Cancelled).**

46. **(Cancelled).**